MY GARDEN[*]

WITHIN about twelve miles of London Bridge as the crow flies, at Beddington, in Surrey, Mr. Smee has a garden, and the description and history of this garden are the subject of as pretty and entertaining a book as we have met with for a long time. In thus describing the book, we advisedly use terms which do not imply that it has any great scientific value in the sense of being the medium of publication of new facts ; nor, indeed, does it put forward any such pretensions. Mr. Smee, whose reputation as an original investigator in electrical science, and as the inventor of the galvanic battery which bears his name, is thirty years old, is in the domain of natural history essentially an amateur, and the work which he now publishes is an amateur's book. To rank it in the same class as Gilbert White's "Natural History of Selborne" is very high praise, but in some respects it certainly deserves it. Faults the book undoubtedly has ; some would call it egotistic, but it is a kindly sort of egotism, which interests the reader in the author and everything connected with him ; and here and there the critical reader will detect a slip betraying want of accurate scientific knowledge ; but these are very few compared with the amount of information contained in its pages.

Mr. Smee's garden consists of about eight acres, bounded on one side by an artificial lake, and watered by the river Wandle. When first brought into cultivation the land was a peat-morass ; but is now made to produce every variety of scenery that ornamental gardening can display. Here we have umbrageous forest-trees, and here a rustic bridge ; here a fern-glen, and here a nightingale bower ; here a rockery of Alpine plants, and here a glimpse of beautiful water scenery. Indeed, in looking at the exquisite drawings with which the book is embellished, it is difficult to realise that the scenes they depict can be reached from London in half-an-hour. The following passage, in Mr. Smee's own words, gives his ideas on the proper mode of laying out a garden :—

"It is a common notion that gardens should be laid out for one general effect ; but the result of such a plan is to produce a single view, and the whole can be seen at a glance. This is, however, monotonous, and my liking is to have many pictures ; so that my visitors have to walk a long way before they can see the many beautiful views which my garden affords ; and little spots of cultivated wildness, or of special cultivation, are found when they are least expected.

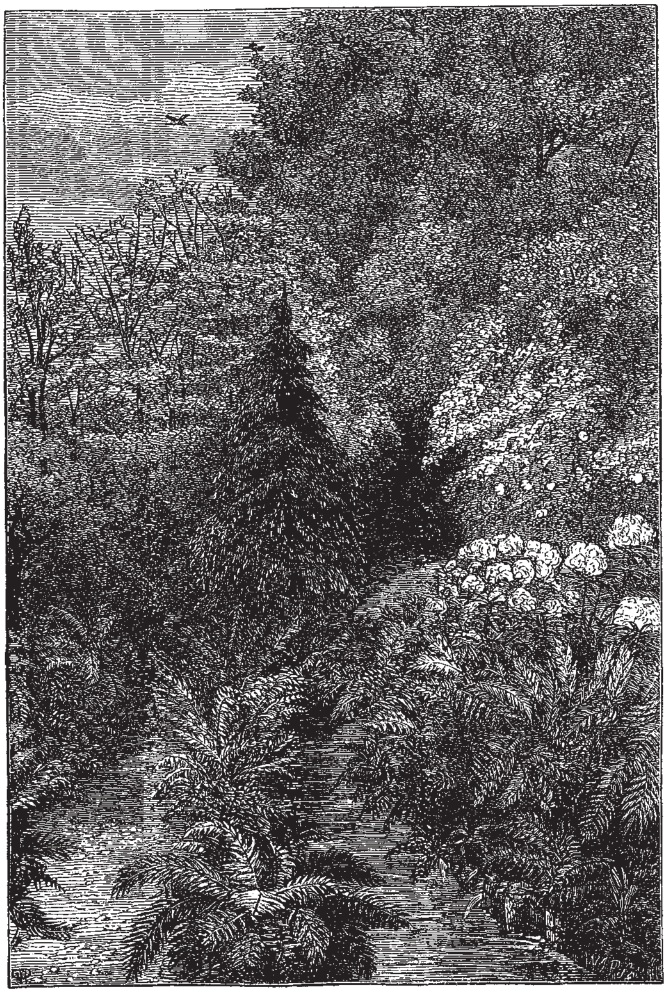

FIG. 1.—VALLEY OF FERNS

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[*] "My Garden : its Plan and Culture, together with a General Description of its Geology, Botany, and Natural History." By Alfred Smee, F.R.S. Illustrated with 1,250 engravings. (London : Bell and Daldy. 1872.)

"In all my designs, I have tried to suggest to the mind that it must be so; and even when my arrangements are most artificial—as when a walk doubles upon itself—it looks that the arrangement has been made because no other plan was really practicable; and when this idea is carried out, the garden looks natural.

"Throughout my garden my vegetables, flowers, and fruit-trees are blended together in one harmonious whole: a plot of carrots and a row of flowering peas are beautiful objects in themselves, and hence plots of vegetables and fruit-trees alternate with rosaries, ferneries, alpineries, and flower-beds. . . .

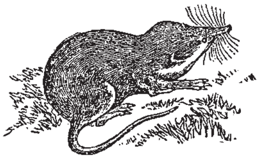

FIG. 2.—SHREW MOUSE

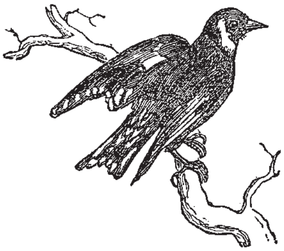

FIG. 3.—THE GOLDFINCH

FIG. 4.—HARVEST MOUSE

FIG. 5.—ROAD NEAR BEDDINGTON

"A long straight line is, in a proper place, very pleasing, and my pear-tree walk is about 150 yards long, parallel with the Park palings. This walk is overarched, at intervals, with climbing roses; and planted on one side with pyramid pear-trees. The general effect is in the highest degree charming, when we come upon it from paths of curved lines, and view the chequered shade upon the path.

FIG. 6.—HYMENOPHYLLUM DEMISSUM

FIG. 7.—ADIANTUM CAPILLUS-VENERIS

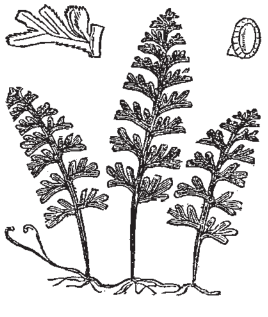

FIG. 8.—HYMENOPHYLLUM TUNBRIDGENSE

"Again, my fern glade is straight, and has a straight grass walk by its side. The nut bushes, on one side, are parallel with the stream; and the grass walk and rows of apple-trees, on the other side, are also straight. In this case also it would have looked unnatural to have had curved lines; and, although I once was tempted to try it, and had made preparations for curving the river, I ordered the materials away, so satisfied was I that straight lines alone would look natural for the occasion.

"With the exception of places where straight lines look natural, I eschew them, and also geometric figures, such as ovals, circles, octagons, as not suitable to the horticulturist, and unpleasing to the eye.

"In using curved lines beauty appears to consist in an ever-varying amount of curve. They should be parts of no regular figure, and the Indians have supplied us, in the patterns of their shawls, with forms which ever please us. In arranging them we must be guided by the eye, and frequently a variation of an inch or two makes an important difference in the effect which is produced."

But the charm of the book is the minuteness with which every detail of the garden is described; not only the flowers and fruits grown in it, the varieties which are found to answer best, and the best mode of cultivating them, but the animals, birds, beasts, and insects, which frequent it, or which have been occasionally seen in it. Mr. Smee thus gossips pleasantly about his ferneries:—

"For some years past ferns and ferneries have been much admired, and have received great attention from amateur cultivators; and with good reason, as their graceful forms are most attractive, their mode of growth interesting, and the colour of their fronds enchanting. Ferns should be grown by themselves, and not mixed with other plants, for several reasons, the principal being the necessity of a special situation for them, and their dislike to be interfered with. However, the rhododendron, and especially the scarlet varieties of it, may be planted along with ferns as a fitting accompaniment; a climbing rose growing wild, or a single-flowering scarlet thorn, may also be employed with advantage. Before the fronds shoot out in spring I like to see the ground, in large patches, covered with masses of primroses at one spot, masses of snowdrops at another, masses of the wild oxalis at a third, and at other places carpeted with the wild hyacinth. It is not usual for me to mix these flowers together, as masses of colour, such as these flowers afford in their native woods, give variety to the scenery of the garden. . . . ."

"Experience has taught me that ferns like an abundance of light, although it is necessary to screen them from cold winds. For this reason I always contrive that a belt of trees, or of rootwork or rockwork, shall surround my ferneries, and at the same time that the light of the sky may fall upon them from above without their being directly exposed to the fiery rays of the sun.

"My Fern Glade is placed on one bank of the backwater, and is screened from the sun by a row of nut-bushes to the south. Here many of the larger varieties of lady-ferns, interspersed with polystichums, broad ferns, mountain ferns, and scolopendriums, are grown. The royal fern flourishes near the river, but it is advisable to keep the crowns well above the water, as their roots like damp soil rather than wet. In the driest spots we grow polypody (*Polypodium vulgare*), and in the wettest the marsh fern (*Lastræa Thelypteris*).

"The Fern Glen is a more elaborate artistic production, affording many delightful little views and growing fine ferns. The whole is well sunk into the ground, with little rivulets running through, affording one or two boggy places. It is protected on the north by a bank, with a hedge interspersed with trees, and on the south by trees. A large willow-tree (*Salix alba*) on the south-west shades the sun's rays, but still there is ample sky light overhead, which I find so desirable for the growth of all ferns. . . .

"My Fern Glade has given me so much pleasure, that I strongly advise every one who has a waste piece of land near his garden to make a fern glen. It will be a pastime in the winter evenings to design it; the construction of it—the transforming of the ideal conception of the mind into a living reality—will afford much pleasure; many a country trip in the woods will be required to furnish it; and when furnished it will afford a spot for contemplation and enjoyment, in which the designer may fancy that the robins, warblers, and nightingales, which never fail to dwell there, are pouring forth their gratitude for the construction of such a delightful retreat.

"My Valley of Ferns is another spot in which I greatly delight. It has a stream through the centre, and it is well surrounded by trees. Here two or three varieties of male ferns and of polystichums attain their highest perfection. The magnificent *Struthiopteris* raises its graceful and delicate fronds in the early spring, and shows its finely-coloured foliage when dying down in the early autumn.

"In the heat of summer the beauty of a great mass of ferny foliage, such as this place affords, cannot be surpassed. The success of this valley of ferns appears to be due to the protection afforded from cold winds by surrounding trees, whilst the plants themselves luxuriate under light and sunshine, with free exposure to air without draught . . .

"At this moment I have nearly every British fern growing out of doors, but I could never succeed in cultivating the *Asplenium marinum* in that situation. This fern grows wild by the sea-coast as far north as Aberdeen; nevertheless I have never been able to grow one in any of my outdoor ferneries. It is a remarkable fact that the *Adiantum Capillus-Veneris* (Fig. 9) has never proved to be hardy with me, although I have it now growing well in the Fern cave. I have seen it along the Mediterranean coast beyond Mentone, but only in particular situations, such as on a bed of sandstone, which is permeable by water; in this situation the fronds were severely frosted in winter. I saw a plant growing at the top of the Cathedral at Genoa, at a time when all the fountains in the city were frozen. I noticed it again to be plentiful at Pompeii and at Herculaneum, and also in the ruins of Nero's Palace at Rome. But nowhere was the maidenhair seen in such perfection as in the ruined amphitheatre at Posilippo, near Naples. The underground rooms and passages formerly used by the gladiators, and for the working machinery of the amphitheatre (which is the most perfect of any now existing), forms a series of caves, through the walls of which moisture continually oozes, and here the maidenhair luxuriates in all its glory. Some of the fronds were eighteen or more inches in length, and the earthen walls were covered with sheets of this lovely fern, standing out at right angles from the wall or hanging down from the roof. I must confess that, when I beheld this great and glorious sight, I was more impressed with it than with the thought that I was present on a spot where dramas of blood were enacted centuries before. I speedily collected a number of plants, to the no small disgust of the *cicerone* who could not do the amphitheatre at his usual gallop, and who shrugged his shoulders at my utter want of taste in gathering useless weeds. Some of these plants now grow at my garden in the Fern cave. The *Adiantum* is said to luxuriate in the orange groves in Spain, in which country the fronds are used to make the syrup of capillaire, a pleasant beverage drunk mixed with water in hot weather."

Probably few are aware that in the clefts of that remarkable formation known as the "limestone pavement," in the west of Co. Clare, Ireland, the maidenhair fern may be gathered flourishing with a luxuriance of growth fully equal to that here described in Italy.

Mr. Smee's "My Garden" is, indeed, a book which ought to be in the hands of every one who is fortunate enough to possess a garden of his own; he is certain to find some things in it from which he may profit. The mode in which the work is got out—the paper, the printing, and the binding—leaves nothing to be desired. The style of the larger illustrations may be judged from the sample we have given; the smaller figures are in most instances equally good, the botanical ones from the pencil of Mr. Worthington Smith, and they abound on almost every page. Some of them might certainly have been spared, as, for instance, the drawings of Mr. Smee's garden roller and water-pot, which do not appear to differ essentially from similar instruments which might be found in any other garden. But these are small defects, which scarcely depreciate from the value of the work in helping to promote among the inhabitants of our great cities a healthy love of country pursuits, and of the study of Nature herself.

A. W. B.

NOTES

SIR JOHN LUBBOCK, Bart., M.P., F.R.S., has been elected Vice-Chancellor of the University of London in the room of Sir Edward Ryan, who accepted the office for a year only on the death of the late Mr. Grote. We may congratulate ourselves that by this appointment the interests of Science will be well looked after in the future career of the metropolitan University.

DR. H. W. ACLAND, Regius Professor of Medicine, and Dr. G. Rolleston, Linacre Professor of Physiology, have been nominated to represent the University of Oxford on the Committee of Reference for the Medical Examining Board for England.

AT the examination for the degree of D.Sc. just concluded at the University of London, the following gentlemen passed to the satisfaction of the examiners:—In Branch VI.—Electricity, Alexander Muirhead; in Branch IX.—Animal Physiology, Henry Newell Martin, M.B.

THE following despatch from Dr. Kirk respecting Dr. Livingstone, dated Zanzibar, May 2, is published in the *Times of India*:—"Letters have been received from Unyanyembe, and Mr. Stanley is now within a few days of the coast on his return, having with him a large box full of correspondence and papers. Arabs state that Dr. Livingstone has visited Uvira, and found the River Rusiri flowing into the lake; but on this point we must await Dr. Livingstone's own report. He then returned to Ujiji, and was met by Mr. Stanley. Dr. Livingstone has gone to Unyanyembe, where he remains. He is in good health, and intends further explorations south after arrival of additional stores from the coast. Two of the Nassick boys who started some years ago with him are in his company, and he is said to be still using the sextant, and taking observations regularly. All his letters are in Mr. Stanley's care." Another despatch, published in the *Bombay Gazette*, dated Zanzibar, May 3, says:—"Dr. Livingstone has reached Unyanyembe. At Ujiji he was met by Mr. Stanley, who is expected daily at Zanzibar, having in his hands a large case of correspondence that will fully explain Dr. Livingstone's recent travels, embracing the north end of the Tanganyika Lake, and solving the Nile problem. Dr. Livingstone is said to remain still in the Unyamwazi country, and to intend further discoveries to the southward on the receipt from Zanzibar of additional supplies and stores. The Livingstone Relief Expedition is now on the African coast ready with all the necessaries for African travel, and Dr. Livingstone's son forms one of its members."

IT is with regret that we have to record the death, on the 27th ult., of Mr. Charles Hill, at his residence, Cotham Grove, Bristol. The deceased gentleman was in his 78th year, and for a long time had taken much interest in astronomical matters. Mr. Hill was in the possession of an excellent observatory, and his scientific instruments were of the first order.

AT the provincial meeting of the Horticultural Society, held at Birmingham last week, Prof. Thiselton Dyer read an address on the bearing of recent scientific investigations on horticulture.

IN his third and concluding lecture at the College of Surgeons, Prof. Humphry continued his exposition of the morphology and homology of the muscles of the limbs in man. Though arranged in accordance with the movements of the several joints of the limbs upon the flexor and extensor aspects, yet the extensor muscles not unfrequently incline on the sides of the joints, from the extensor to the flexor aspects, and so, irrespective of their nerve-supply, acquire a flexor action. This he believed to be the case with the biceps flexis cruris, which he has shown, from the anatomy of the Cryptobranch in the last number of the *Journal of Anatomy*, to be a derivative from the extensor mass in the thigh. Occasionally, also, as in the case of the *lumbricales*, flexor muscles acquire an extensor action. He spoke of the tendinous intersection in the semitendinosus as being the representative of a similar intersection in the Cryptobranch found at the junction of the caudal with the femoral muscle; and believed it to be present in man for the purpose of dividing the fibres of this muscle, which are of unusual length in consequence of the range of action required of them by the insertion of the tendon at a greater distance from the centre of motion at the knee than the other hamstrings. The ulnar origin of the pronator teres is a representative of the pronator intermedius of reptiles. It is found in the chimpanzee as well as in man, and serves to carry on pronation of the forearm in the flexed position of the elbow in which the remainder of the muscle is relaxed. In like manner the accessorius in the foot serves to maintain the flexion of the toes, while the flexor digitorum is relaxed by the bending of the ankle. This muscle has no representative in the upper limb of man, or in the fore limb of mammals, but it is well represented in the fore limb of Saurians. The great difference in the construction of the two limbs is caused by the pronation and supination in the fore arm and hand, and by the projection of the heel; and the representatives of the muscles, which in the upper limb affect the movements of pronation and of flexion of the fingers, are in the lower limbs, to a considerable extent, concentrated upon the knee. In instituting the comparison between a hand and foot, the Professor observed that it is necessary to eliminate from the consideration those features which ordinarily distinguish the one limb from the other; and this has not been done with sufficient care by some of those who have recently discussed the subject. We should first determine the points in which the hand of man differs from the terminal part of the ordinary fore limb of a mammal; and we may apply the term "hand" to the terminal part of either limb which presents a corresponding modification. This may take place in the hind limb, although the heel may project, and though a peroneus longus muscle, and a short flexor, and a short extensor of the digits may be present. These have been insisted on as the anatomical features of a foot as distinguished from a hand. But in reality they are rather the features of a hind limb as distinguished from a fore limb; and their presence is quite compatible with a modification of the hind limb corresponding with that modification of the fore limb which constitutes the hand of man. Judged in this way the terminal part of the hind limb of a gorilla or a chimpanzee has as much claim to be called a hand as has the terminal part of the fore limb in the same animals. Hence the term "quadrumanous" is, on anatomical ground, fairly applicable to these animals and their allies, as there is no sufficient reason to deny to man the prerogative of special subdivision of labour in the parts of his frame, and, consequently, of high organisation which is significantly implied by the term "bimanous." These lectures are in course of publication in full in the *British Medical Journal*.

THE concluding excursions of the Geologists' Association for the present season will be as follows:—Monday, July 8, excursion to Walton-on-the-Naze; director, Prof. Morris. Saturday, July 13, visit to the International Exhibition; director, Prof.